TeSys Active

TeSys island – Digital Motor Management Solution

Quick Start Guide for EcoStruxure Control Expert Classic

TeSys offers innovative and connected solutions for motor starters.

DOCA0236EN-00 11/2021





Legal Information

The Schneider Electric brand and any trademarks of Schneider Electric SE and its subsidiaries referred to in this guide are the property of Schneider Electric SE or its subsidiaries. All other brands may be trademarks of their respective owners.

This guide and its content are protected under applicable copyright laws and furnished for informational use only. No part of this guide may be reproduced or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), for any purpose, without the prior written permission of Schneider Electric.

Schneider Electric does not grant any right or license for commercial use of the guide or its content, except for a non-exclusive and personal license to consult it on an "as is" basis. Schneider Electric products and equipment should be installed, operated, serviced, and maintained only by qualified personnel.

As standards, specifications, and designs change from time to time, information contained in this guide may be subject to change without notice.

To the extent permitted by applicable law, no responsibility or liability is assumed by Schneider Electric and its subsidiaries for any errors or omissions in the informational content of this material or consequences arising out of or resulting from the use of the information contained herein.

Table of Contents

Safety Information	5
About the Book	6
Terminology Derived from Standards	7
Product Related Information	8
Before You Begin	9
Start-Up and Test	10
Operation and Adjustments	10
Introduction to TeSys island	11
TeSys Master Range	11
Overview	11
TeSys island Concept	12
System Requirements	12
Integrating TeSys island into EcoStruxure Control Expert Classic	>
Project	13
Creating a Project	13
Adding TeSys island to the Project	15
Configuring the IP Address of the CPU	17
Configuring the IP Address of the TeSys island	19
Uploading TeSys island Project to PLC	20
Uploading TeSys island Project to PLC via Ethernet Cable	24
Using the TeSys island Library for Developing Applications	25
Installing Function Blocks of TeSys island Library	25
Configuring Project Settings	27
Using Function Blocks for Developing Application	28

Safety Information

Important Information

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.



WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

CAUTION indicates a hazardous situation which, if not avoided, **could result** in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

About the Book

Document Scope

This document provides the steps required in EcoStruxure[™] Control Expert Classic software to create a project with a TeSys[™] island and a logic/motion controller using the Modbus TCP protocol.

This document also provides the details about:

- Integrating the TeSys island into the EcoStruxure Control Expert Classic project.
- Accessing the TeSys island DTM (Device Type Manager) via EcoStruxure Control Expert Classic software for configuring the TeSys island modules and processes by using TeSys avatars.
- Using the function blocks of the TeSys island library that is available in EcoStruxure Control Expert Classic software for developing applications and to control TeSys avatar modules.

It is recommended that before using this document, the user must have knowledge on:

- · Information on functionality, structure, and configuration of the TeSys island
- · Information on functionality, structure, and configuration of the controller

Validity Note

This guide is only valid for:

- EcoStruxure Control Expert Classic software v15.0 SP1 Classic
- PLC Modicon M580

Online Information

The information contained in this guide is likely to be updated at any time. Schneider Electric strongly recommends that you have the most recent and up-todate version available on www.se.com/ww/en/download/.

The technical characteristics of the devices described in the present document also appear online. To access the information online, go to the Schneider Electric home page.

Related Documents

Title of documentation	Reference number
TeSys island – System Guide	8536IB1901EN
TeSys island DTM Library Online Help	Available with the installer
Modicon M580 – Hardware Reference Manual	EIO000001578
EcoStruxure Control Expert – TeSys island Library Control User Guide	EIO000004519

Terminology Derived from Standards

The technical terms, terminology, symbols and the corresponding descriptions in this manual, or that appear in or on the products themselves, are generally derived from the terms or definitions of international standards.

In the area of functional safety systems, drives and general automation, this may include, but is not limited to, terms such as safety, safety function, safe state, fault, fault reset, malfunction, failure, error, error message, dangerous, and so on.

The standards included are:

Standard	Description
IEC 61131-2:2007	Programmable controllers, part 2: Equipment requirements and tests.
ISO 13849-1:2015	Safety of machinery: Safety related parts of control systems.
	General principles for design.
EN 61496-1:2013	Safety of machinery: Electro-sensitive protective equipment.
	Part 1: General requirements and tests.
ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction
EN 60204-1:2006	Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 14119:2013	Safety of machinery - Interlocking devices associated with guards - Principles for design and selection
ISO 13850:2015	Safety of machinery - Emergency stop - Principles for design
IEC 62061:2015	Safety of machinery - Functional safety of safety-related electrical, electronic, and electronic programmable control systems
IEC 61508-1:2010	Functional safety of electrical/electronic/programmable electronic safetyrelated systems: General requirements.
IEC 61508-2:2010	Functional safety of electrical/electronic/programmable electronic safetyrelated systems: Requirements for electrical/electronic/programmable electronic safety-related systems.
IEC 61508-3:2010	Functional safety of electrical/electronic/programmable electronic safetyrelated systems: Software requirements.
IEC 61784-3:2016	Industrial communication networks - Profiles - Part 3: Functional safety fieldbuses - General rules and profile definitions.
2006/42/EC	Machinery Directive
2014/30/EU	Electromagnetic Compatibility Directive
2014/35/EU	Low Voltage Directive

In addition, terms used in the present document may tangentially be used as they are derived from other standards such as:

Standard	Description
IEC 60034 series	Rotating electrical machines
IEC 61800 series	Adjustable speed electrical power drive systems
IEC 61158 series	Digital data communications for measurement and control – Fieldbus for use in industrial control systems

Finally, the term zone of operation may be used in conjunction with the description of specific hazards, and is defined as it is for a hazard zone or danger zone in the Machinery Directive (2006/42/EC) and ISO 12100:2010.

NOTE: The aforementioned standards may or may not apply to the specific products cited in the present documentation. For more information concerning the individual standards applicable to the products described herein, see the characteristics tables for those product references.

Product Related Information

AWARNING

LOSS OF CONTROL

- The designer of any control scheme must consider the potential failure modes of control paths and, for certain critical control functions, provide a means to achieve a safe state during and after a path failure. Examples of critical control functions are emergency stop and overtravel stop, power outage and restart.
- Separate or redundant control paths must be provided for critical control functions.
- System control paths may include communication links. Consideration must be given to the implications of unanticipated transmission delays or failures of the link.
- Observe all accident prevention regulations and local safety guidelines.¹
- Each implementation of this equipment must be individually and thoroughly tested for proper operation before being placed into service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

UNINTENDED EQUIPMENT OPERATION

- Only use software approved by Schneider Electric for use with this equipment.
- Update your application program every time you change the physical hardware configuration.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

For additional information, refer to NEMA ICS 1.1 (latest edition), "Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control" and to NEMA ICS 7.1 (latest edition), "Safety Standards for Construction and Guide for Selection, Installation and Operation of Adjustable-Speed Drive Systems" or their equivalent governing your particular location.

Before You Begin

Do not use this product on machinery lacking effective point-of-operation guarding. Lack of effective point-of-operation guarding on a machine can result in serious injury to the operator of that machine.

UNGUARDED EQUIPMENT

- Do not use this software and related automation equipment on packaging equipment which does not have point-of-operation protection.
- Do not reach into machinery during operation.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

This automation equipment and related software is used to control a variety of industrial processes. The type or model of automation equipment suitable for each application will vary depending on factors such as the control function required, degree of protection required, production methods, unusual conditions, government regulations, etc. In some applications, more than one processor may be required, as when backup redundancy is needed.

Only the user can be aware of all the conditions and factors present during setup, operation and maintenance of the machine; therefore, only the user can determine the automation equipment and the related safeties and interlocks which can be properly used. When selecting automation and control equipment and related software for a particular application, the user should refer to the applicable local and national standards and regulations. The Accident Prevention Manual (nationally recognized in the United States of America) also provides much useful information.

In some applications, such as packaging machinery, additional operator protection such as point-of-operation guarding must be provided. This is necessary if the operator's hands and other parts of the body are free to enter the pinch point area and serious injury can occur. Software products cannot protect an operator from injury. For this reason the software cannot be substituted for or take the place of point-of-operation protection.

Ensure that appropriate safeties and interlocks related to point-of-operation protection have been installed and are operational before placing the equipment into service. All interlocks and safeties related to point-of-operation protection must be coordinated with the related automation equipment and software programming.

NOTE: Coordination of safeties and mechanical/electrical interlocks for pointof-operation protection is outside the scope of the Function Block Library, System User Guide, or other implementation referenced in this documentation.

Start-Up and Test

Before using electrical control and automation equipment for regular operation after installation, the system should be given a start up test by qualified personnel to verify correct operation of the equipment. It is important that arrangements for such a check be made and that enough time is allowed to perform complete and satisfactory testing.

EQUIPMENT OPERATION HAZARD

- · Verify that all installation and set up procedures have been completed.
- Before operational tests are performed, remove all blocks or other temporary holding means used for shipment from all component devices.
- Remove tools, meters and debris from equipment.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Follow all start up tests recommended in the equipment documentation. Store all equipment documentation for future references.

Software testing must be done in both simulated and real environments.

Verify that the completed system is free from all short circuits and grounds, except those grounds installed according to local regulations (according to the National Electrical Code in the U.S.A, for instance). If high-potential voltage testing is necessary, follow recommendations in equipment documentation to help prevent from accidental equipment damage.

Before energizing equipment:

- Remove tools, meters and debris from equipment.
- Close the equipment enclosure door.
- Remove ground from incoming power lines.
- Perform all start-up tests recommended by the manufacturer.

Operation and Adjustments

The following precautions are from the NEMA Standards Publication ICS 7.1-1995 (English version prevails):

- Regardless of the care exercised in the design and manufacture of equipment or in the selection and ratings of components, there are hazards that can be encountered if such equipment is improperly operated.
- It is sometimes possible to misadjust the equipment and thus produce unsatisfactory or unsafe operation. Always use the manufacturer's instructions as a guide for functional adjustments. Personnel who have access to these adjustments should be familiar with the equipment manufacturer's instructions and the machinery used with the electrical equipment.
- Only those operational adjustments actually required by the operator should be accessible to the operator. Access to other controls should be restricted to help prevent unauthorized changes in operating characteristics.

Introduction to TeSys island

TeSys Master Range

TeSys is an innovative motor control and management solution from the global market leader. TeSys offers connected, efficient products and solutions for switching and protection of motors and electrical loads in compliance with all major global electrical standards.

Overview

TeSys island delivers a connected and customized system for the direct control and management of low-voltage loads. The island optimizes availability of the physical modules with embedded pre-alarming management capabilities.

TeSys island targets performance and high-performance machines with automation architectures based on high-speed networks connecting devices to a PLC. Machinery operating at high production rates must avoid unplanned production downtime, which can be extremely costly. TeSys island helps to reduce unplanned downtime with predictive maintenance so that repairs can be completed during a scheduled maintenance window.

TeSys island is fully integrated into the PLC programming environment using digital objects. TeSys island is fully integrated into the EcoStruxure portfolio that combines products and software packages into automation solutions for OEMs and machine builders. The system also supports integration into third-party PLCs.

TeSys island Concept

TeSys island describes an open, modular distributed input/output system comprising different modules mounted on a DIN rail backplane.



- A Bus coupler
- B Analog input/output module
- C Digital input/output module
- D Voltage interface module
- E Standard starter
- F SIL (Safety Integrity Level) starter
- G SIL interface module
- H Power interface module

The TeSys island device acts as a node in a fieldbus network. The bus coupler is the core module of the device. The bus coupler provides internal communication with the TeSys island modules via ribbon cables and external communication via Modbus TCP protocol.

For more information, refer to the TeSys island System Guide.

System Requirements

The following components are required for communication via EtherNet/IP or Modbus TCP.

Component	Type and Version
EcoStruxure Control Expert Classic software	Classic V15.0 SP1
PSx DTM Library version	3.14.54
Schneider_Electric_TeSys_island_DTM_Library version	2.2.2 or later
Controller	BMEP58 ····· logic controller

Integrating TeSys island into EcoStruxure Control Expert Classic Project

Creating a Project

NOTE: Before creating a new project, you must know the type of PLC model and PLC backplane required to integrate into the project.

Perform the below steps to create a project:

Step	Action		
1	Open EcoStruxure Contol Expert Classic software.		
2	Click File > New.		
	Result: List of PLCs is displayed on the screen.		
	CoStruxure Control Expert		
	File View Tools PLC Help		
	简 <u>N</u> ew Ctrl+N		
	<u>⊂ Open</u> Ctrl+O		
	Exit		
3	Select a PLC Modicon M580 according to the hardware that will be use	ed for the project.	
	1. In the PLC window, click Modicon M580.		
	2. In the Rack window, expand Modicon M580 local drop and select	ct a rack.	
	3. Click OK .		
	Result:		
	a. A processing command window appears. Wait for some time of the configuration files.	to complete the processing	
	 When the processing of files is completed, the Security enfo displayed on the screen. 	rcement window is	
	New Project	×	
	Show all versions	OK	
	PLC Min.OS Version Description	Cancel	
	Modicon M580 BME H58 2040 03 20 CPU 580-2 E TH HSBY remote and distributed IO	Help	
	BME H58 4040 03 20 CPU 580-4 ETH HSBY remote and distributed IO BME H58 6040 03 20 CPU 580-6 ETH HSBY remote and distributed IO BME P58 1020 03 20 CPU 580-16 TH HSBY remote and distributed IO		
	BME P58 2020 03 20 CPU 580-2 ETH distributed IO BME P58 2040 03 20 CPU 580-2 ETH remote and distributed IO		
	BME P55 3020 0.3 20 CPU 580-3 E I H alstituted IO BME P58 3040 0.3 20 CPU 580-3 E TH remote and distributed IO BME P58 4020 0.3 20 CPU 580-4 E TH distributed IO		
	BME P58 4040 03 20 CPU 580-4 ETH remote and distributed IO BME P58 5040 03 20 CPU 580-5 ETH remote and distributed IO		
	Momentum Premium Premium		
	ter Guantum		
	Pack Description		
	Modicon M580 local drop Rack		
	BME XBP 0400 4 SLOTS ETHERNET BACKPLANE BME XBP 0602 6 SLOTS REDUNDANT ETHERNET BACKPLANE		
	BME XBP 0800 8 SLOTS ETHERNET BACKPLANE BME XBP 1002 10 SLOTS REDUNDANT ETHERNET BACKPLANE BME XBP 1000 10 SLOTS REDUNDANT ETHERNET BACKPLANE		
	Project Settings		
	Settings File:		

Step	Action
4	 To manage a password, perform one of the following steps as required: Create a new password for the project and click OK. Click Cancel if password is not required. Result: The structure of the project is created and displayed in the Project Browser window.
	Security enforcement × Application password protection is preventing application stolen and secure Contracters. Implication password is preventing any malicious file corruption or theft of Intellectual property. Application password File encryption password Entry: Entry: Confirmation: Confirmation: Your password must contain at least one uppercase letter, one lowercase letter and one special character. Its minimum length must be 8 characters.
5	Double-click the Configuration folder in the Structural view. Result: The physical view of the device configuration is displayed on the screen.

Adding TeSys island to the Project

Perform the below steps to add TeSys island to the project:



Step	Action						
4	Select TeSys island dev	rice and clic	k Add DTM.				
	Result: The device prop	erties windo	ow is displaye	ed on th	e screen.		
	Add				×		
	Protocol Modbus over TCP	~					
	Device ATV30 ATV40 ATV40 ATV40 Lexium 28:5 Lexium 28:5 Lexium 28:5 Lexium 28:5 Group 28:5 ATV80 ATV80 Lexium 28:5 Lexium 28:5 Attract 28:5	Type Device Device Device Device Device Device Device Device Device Device Device Device Device Device	Vendor Schneider Electric Schneider Electric	Version 1260 1.7.00 25.10 22.10 106.12.00 120.02.01 12.002.01 12.14.0 12.14.0 12.14.0 12.24.3x.4x 22.73.10 2.12.00 1.0.41	Date 2019-04-12 2019-05-27 2019-05-27 2019-05-06 2020-06-03 2020-04-09 2020-04-09 2015-05-27 2018-02-28 2018-02-28 2018-02-28 2018-05-09 2018-05-09 Close		
5	In the Properties of dev The Existence Control Expert: PROJECT DEMO The Edit View Services Tools build PLC Debug Window He The Control of the Control of the Control The Control of the Control of the Control Control of the Control of the Control of the Control Control of the Control of	ice window	s, change the	name o	f the device	e if required and click C	ικ.
				ОК	Annuler Aide		

Configuring the IP Address of the CPU

Perform the below steps to configure the IP address of the CPU:

Step	Action		
1	Double-click the Configuration folder in the Project Browser window.		
	Result: The physical view of the device configuration is displayed on the screen.		
	Bus: DME P58 2020 03.20 Image: Comparing the state of the		
2	Double-click the communication connectors of the PLC on the PLC bus window.		
	Result: The communication settings window of the PLC is displayed on the screen.		
3	 Click Security menu and perform one of the following steps as required: Click Enforce Security to enable or disable the services. Click Unlock Security to enable all services. 		
	🔀 0.0 : EIO : CommHeadDIO12		
	CommitteedD012 ID Security ID Allow ID ARTP ID Allow ID ARTP ID Allow ID ARTP ID Allow ID Associations Channel00 Clobal poloy Efforts Security Inhold Security Services IFF : Deabled IFF : Services IFF : Deabled IFF : Access Control IFF : Deabled IFF : Services IFF : Deabled IFF : Babeed IFF : Deabled IFF : No IFF : Deabled IFF : Introduct IFF : Deabled : IFF : Introduct IFF : IFF : IFF :		

Step	Action
4	Click IP Configuration menu and set the IP address of the CPU according to the network.
	Note: I ne IP address A has to be different than the Main IP address.
	Particin Particin Particin
5	Click the Validate icon ()) on the toolbar.
	The Stit Way Service Tools Builty RC Debuy Window Help 같아도 No.
	The Standard Stan
	Fundame Catalog Image: Compared to a state of the sta

Configuring the IP Address of the TeSys island

Perform the below steps to configure the IP address of the TeSys island:

Step	Action		
1	Double-click the CPU in the DTM Browser window.		
	Result: The device configuration window is displayed on the screen.		
	True for an and a second secon		
	Construction of the set of the se		
	Logona Both As a down Rained		
	Decontraction Decontr		
2	Select TeSys island device > Address Setting menu, and configure the IP address of the TeSys island.		
	Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution Image: Solution of Solution of Solution Image: Solution of Solution of Solution of Solution Image: Solution of So		
	2 Body & Facility 2 Body & Fac		
	Deconvertel Deconvert		
3	Click Apply.		
4	1-1-1-1 1-1-1-1		
	Click the Build icon (
	② focstruure Control Expert (2016) DENOP File Edit User Services Tools Build PLC DeNoy 登録見の 私まだのへのがある方面 した ③ 世話 第20 話 3 3 4 美 ・ 2 2 2 1 1 1 2 英語で言か 簡先 先日 「 ? N?		
	Build Build Project Browser Image: Strowser Tage: Strowser Image: Strowser Tage: Strowser Image: Strowser		
	Decomputation De		
	Variables & R Hastances Channel Properties Properties Address Setting Vortubels Channel Properties Properties Address Setting Porce DOT Variables Setting Properties Address Setting Porce DOT Variables Setting Properties Address Setting		
	DTM Browser Image: Starting of a local Slaves Image: Starting of a local Slaves DTM Browser Image: Starting of a local Slaves		
	Qui ext rC Image: Section 2 - Section		
	Address Server Logging BH0P for this device: Enabled		
	Settified by: Device Name Settified by: Device Name Settified by: Device Name Settified by: Device Name		

Uploading TeSys island Project to PLC

Perform the below steps to upload the TeSys island project to PLC:





Step	Action
8	Right-click on the TeSys island device in the DTM Browser window and select Connect .
	File Edit Vew Services Tools Build RC Obby Window Help ・ 2 ・ 2 ・ 2
	Owner Owner Weither weither Sore Adhear Weither weither Sore Adhear Weither<
9	Based on the specific requirement, you can choose one of the following steps to configure the TeSys island:
	 If the TeSys island has already been configured and the user does not want to upload a new configuration, right-click on the TeSys island device in the DTM Browser window and select Load data from device.
	「Fire tait two Service Tools India AC Deboy Wedger Hep の学生の一句は見のくる ないない かんな 「「本のな」」を引きまた。 「「本のな」の「」、
	Project Browner Open Skippen (2014) Marchard Wer Add. Detector Participan Detector Detector Participan Bindid bas documy Scheditaria
	Control Date Types Control Typestoles Poperties Popert Poperties Poperties Poperties
	Discrete from the first start for the first start for the first start sta
	B Party Size J Party Size J Party P
	Description Properties AUT-Enter Mode Methods Medicion Additional Stream Product Medical Medica
	Ulta sector Copid all Contraction Copid all Co
	 If the TeSys island has not been configured and the user wants to upload a new configuration, perform one of the following steps as required:
	 Double-click on the TeSys island device in the DTM Browser window and configure the device
	同日 Edit Verv Smrkes Scots Build PLC Debug Window Help のの日日 国本氏 のつ の アルヘジョーム のの日 開始日日 アメルート 発発 日日 京和学校会 原作 多日口 文化
	Image: Dimension of the second sec
	 Right-click on the TeSys island device in the DTM Browser window, and click Device menu > Additional functions > Import > Import TeSys island Configurator Format to import the configuration files.
	Result: The new configuration is imported into the software.
	Image: Section of the section of t
	Note Name Note
	Image: Control of the control of t

Step	Action	
10	Double-click the Te	Sys island device in the DTM Browser window, and select Store data to device .
	C EcoStructure Control Longen - SBOILCT. DELADA - IndiCo III File Edit Vy Add. 1 ★ □ = Q 0 Field bits discovery	20xx10x1 400 • ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
	Project Browser Sort by address	COTROL TOTAL Deductometricitement Deductometricitement Deductometricitement Deductometricitement Deductometricitement
	Project Connect Disconnect	MON KOT MON AVATAR PROMIETICS CARANGETICS CONTINUE EXEMPLICITION.
	Device Load data from device Device Revice Device Revice Revice Revice Revice Device Revice Revi	Next Lingua Agains PRAMETER AVAILABLE Image: An addition of a grant of a
		PARAMETERS EGGREGARIN
		Emplete at solar parts. Apole parts
		Optimized Optimized
		P R Charles (2) MM734 (3) Constant (2) C

Uploading TeSys island Project to PLC via Ethernet Cable

Perform the below steps to upload the TeSys island project to PLC via Ethernet cable:

Step	Action		
1	Click PLC > Set Address.		
	Result: The Set Address window is displayed on the screen.		
	Rocharder Control Expert: ROLICE LEMON - (Rédy, Luind - InfaConfiguration) Ref Exit Vere Services Tools Build RC Poleg Window Heg Ref Control Ref		
2	Select the IP address of the PLC. Select the Media as TCPIP and click OK .		
3	Click the Connect icon (
	Result: TeSys island is integrated into the project and connected to the PLC Modicon M580 with		
	<complex-block></complex-block>		
	Ready All Project (_ beachapt), Universe), 1011aguent), 5arch/factors / Ready INTERCENTION OFFICE IFCONTRACTORS		

Using the TeSys island Library for Developing Applications

Overview

The TeSys island library is added to the **Types Library Manager** in the EcoStruxure Control Expert Classic software. The library manager provides function blocks to support in developing applications and to control TeSys avatars.

Installing Function Blocks of TeSys island Library

Perform the below steps to install the function blocks of TeSys island library:

Step	Action			
1	Download the latest EcoStruxure Control Expert 2021 Electric Industry End Users and SI Campus.	– TeSys island Library.zip file from Schneider		
2	Extract the zip file in the local hard disk.	Extract the zip file in the local hard disk.		
3	Click Start > EcoStruxure Control Expert Classic > Types library update.			
	Result: Types library update window is displayed or	the screen.		
4	Click Browse button.			
	📋 Types library update	×		
	Enter the directory where is located the file FAMILY.DSC of in form : C:\WINDOWS\system32 Library path pgramData\Schneider Electric\Control Expert 15.0\CustomLi Exit	Install family		
5	Browse the location of the extracted zip folder, select	FAMILY.DSC file, and click Open.		
	📋 Open	×		
	Look in: Application 💌 🔶 🖆 📰 🗸			
	Name Date modified	Type		
	Quick access 30-06-2021 23:11	File fc File fc		
	ENG 30-06-2021 23:11	File fc		
	Desktop FRE 30-06-2021 23:11	File fc		
	GER 30-06-2021 23:11	File fc		
	Libraries SPA 30-06-2021 23:11	File fc		
	FAMILY.DSC 29-06-2021 16:49	DSC F		
	LIBRARY.DSC 29-06-2021 16:48	DSC F		
	Network			
	(C			
	Filer of type: Standy Circ (1 dec)			
	Lieb of type. [Pamay Fries (Lasc)			

Step	Action		
6	Click Install family.		
	Result: The installation of the library file starts.		
	📋 Types library update 🛛 🗙		
	Enter the directory where is located the file FAMILY.DSC of installation form :		
	SysTM island Library\Control Expert Families\Application\FAMILY.DSC		
	Library path gramData\Schneider Electric\Control Expert 15.0\CustomLibset V15.0		
	E xit Install family		
7	On successful installation of a family file, a message appears on the screen. Click OK .		
	🔋 Types library update 🛛 🗙		
	Entr form C:V The installation has succeeded S\Control\Mo		
	Library path pgra OK NLibset V15.0 -		
	Exit Install family		
8	Open EcoStruxure Control Expert Classic software. Click Tools > Types Library Manager.		
	Result: TeSys island Library 2021 is displayed under Libset V15.0 or later.		
	📧 Types Library Manager - 🗆 X		
	All Types Variable types FFB Types		
	Name System System System Application Avatar Application Avatar AnalogIO_DTMInputs_Enha Struct> AnalogIO_DTMInputs_Enha Struct> AnalogIO_DTMOutputs Struct> ContDir_DTMInputs_Legacy Struct> ContDir_DTMInputs_Lenha Struct> ContDir_DTMInputs_Lenacy Struct> ContDir_DTMInputs_Lenacy Struct> ContDir_DTMInputs_Lenacy Struct> Struct> ContDir_DTMInputs_Lenacy Struct> Struct> Struct> Struct> Struct> Struct> Struct> Struct> <listruct></listruct>		
	Information Close Access Assistant Help		

Configuring Project Settings

Perform the below steps to configure the project settings:

Step	Action			
1	Open the generated .	stu or .xref file in EcoStru	xure Control Expert Classic softwar	e.
2	Click Tools > Project Settings.			
	Result: Project Setti	ngs window is displayed o	on the screen.	
3	Click Variables and select the Allow dynamic arrays (ANY_ARRAY_XXX) check box to avoid the detected error E1208 usage of dynamic arrays is disabled reported when compiling the project.			
	Project Settings Project Settings General General General General Project autosaving on download PLC diagnotics PLC behaviour Path Time Configuration Variables Program Configuration Variables SFC multi token	Property label Property Allow leading digits □ Character set Standard Allow usage of EBOOL edge IV Allow INT/DINT in place of ANY_BIT IV Allow Wardschon of INT, WORD and BYTE IV Directly represented array variables □ Allow dynamic arrays (ANY_ARRAY_XOQ) IV Dirable array size compatibility check □ Faskle fast scenning for trending □ Force references initialization □ Save Restore Data Request □	? × yalue	
	- Import - Export Reset A		Çancel Help	
4	Clear the Force refer	ences initialization chec	k box.	
5 Click Languages > Common and select the Allow multi assignment [a=b=c] { to avoid the detected error E1203 usage of multi assignment statements is dis when compiling the project.		T/LD} check box abled reported		
	Project Settings		? ×	
	Project Settings General General Management of build messages Build settings Project autosaving on download PLC diagnostics PLC behaviour PLC diagnostics PLC diagnos	Property label Property Allow procedures If Allow nutriculties: If Allow netted comments If Allow multi assignment (a=b:x=(151/LD) If Allow multi assignment (a=b:x=(151/LD) If Usage of 51 expressions (LD/FDD) If Display complete comments of structure element If Enable implicit type conversion If		
		DK Apply Can	ncel Help	

Using Function Blocks for Developing Application

Perform the below steps to use the function block for developing the application in EcoStruxure Control Expert Classic software:

Step	Action
1	In Project Browser window, click Programs >Tasks > MAST > Logic.
2	Right-click on the Logic folder and select New Section .
	Result: The New Section window is displayed on the screen.
	Result: The configuration zone window is displayed on the screen. New Seneral Localization Condition Comment Name: Motor2Dir Language: Protection: None OK Annuler Appliquer
4	Right-click on the configuration zone and select FFB Input Assistant.
	Image: New York Critical 20 30 40 20 Base Critical 30 Example Critical 40 Example Critical 40 Example Critical

Step	Action				
5	Click the Browse button located next to Function Input Assistant screen.				
	Result: FFB Type Selection window is displayed on the screen.				
	🖏 Function Input Assistant X				
	FFB type :				
	Prototype				
	Name Type no. Comment Entry field				
	Add Pin Remove Pin(s) Help On Type				
	Special Assistant OK Cancel Help				
6	On FFB Type Selection screen, select <libset v15.0=""> > TeSys island Library 2021 and then</libset>				
	select the required function block and click OK .				
	Function Input Assistant : FFB Type Selection				
	Help On Type				
	Function and Function Block types Image: Total State Image: To				
	Libraries/Families Name no.				
	H I Conveyor Would Color Figure 2020 Figure 2020				
	Image: Stand Lorary 2021 Image: Stand Lorary 2021 Image: Lorary 2021 Image: Stand Lorary 2021				
	Communication ⊕ Mc2DPSLB0pWC12				
	Device Avatar Device Avatar				
	Encry Monitoring				
	Coad Avatar General Decomposition General Decomposition				
	III UnityLL994				
	OK Annuler				

Step	Action			
7	After selecting the function block, click OK on the Function Input Assistant screen.			
	Result: An icon appears near the arrow of the mouse.			
	🗞 Function Input Assistant X			
	FFB type : Mot2Direction			
	Instance : Mot2Direction_1			
	Name Type no. Comment Entry field Image: Second Seco			
8	Left-click on the configuration zone. Result: The structural view of the function block is displayed on the screen. Result: The structural view of the function block is displayed on the screen. Result: The structural view of the function block is displayed on the screen.			
	Image: Source of the type of the AL with the AL of the P II Image: Source of the type I			

For more information on the available functional blocks and its configuration, refer to the EcoStruxure Control Expert – TeSys island Library Control – User Guide.

Schneider Electric 35 rue Joseph Monier 92500 Rueil Malmaison France

+ 33 (0) 1 41 29 70 00

www.se.com

As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.

© 2021 - Schneider Electric. All rights reserved.

DOCA0236EN-00